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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/505,479 | 08/23/2004 | Yorio Takahashi | YMOR:338 | 3630 |

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT PAPER NUMBER

2627

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--|---|--|
| Office Action Summary | Application No. 10/505,479 | Applicant(s) TAKAHASHI, YORIO | |
| | Examiner Christopher R. Lamb | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Each of these claims relies upon calculating a “vibration detection value.” This calculation is not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention.

The first embodiment will be used as an example to explain this rejection, but the same analysis applies to the other embodiments, and thus to all the claims.

At first glance, in the first embodiment the calculation of the vibration detection value is enabled. It is described in the specification in, for example, equation 37, which is:

$$\text{VIBRATION QUANTITY} = \frac{1}{4} \sum_{x=1}^6 |DAT[x]|$$

However, to calculate equation 37 (or similar equations for other embodiments), one skilled in the art would have to know the meaning of the term DAT[x].

The term DAT[x] is defined in equation 34, which is actually several equations. For example, $DAT[3]=DAT2[3]-DAT1[3]$. This equation is not understandable because the terms DAT2 and DAT1 have not been defined in an understandable way.

DAT2, for example, is introduced on page 26:

“Thus, the counted value of the counting unit 115 is obtained with the code indicating a track cross direction based on the output of the rotational position information output unit 114 for each of the areas obtained by dividing one rotation into six. The obtained counted value is expressed by the equation below.

$$DAT2[1]\sim DAT2[6]$$

(Equation 33).”

In the last Office Action the Examiner had objected to this equation as not understandable. This was not at that time a 112 rejection because the Examiner interpreted this section of the specification to mean something along the lines of “the obtained counted values are expressed by the terms DAT2[1] through DAT2[6].” If DAT2[1] through DAT2[6] are the track crossing counted values in each of the 6 angular regions, both the DAT[x] and vibration quantity terms follow understandably: the DAT values are the differences between the counted values in each region at each speed, and the vibration quantity is a sum of the absolute value of these. This interpretation appears to match the text surrounding the equations in question.

However, in the Applicant’s arguments filed May 12th, 2006, the Applicant has stated that the symbol “~” means “is similar to or of the same order of magnitude as,”

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and that an equation of the form of equation 33 is defined as DAT2[1] as similar to DAT2[6].

The introduction of DAT2 on page 26 then becomes “the obtained counted value is expressed by the equation: DAT2[1] is similar to DAT2[6].”

This expression fails to define DAT2, except with regards to itself. It also appears to contradict Figures 2-4 and 6 of the specification, in which DAT2 is clearly shown to be different from region to region. One skilled in the art would likely be confused as to the meaning of DAT2 and by the apparent contradiction between “equation” 33 and the figures.

If DAT2 is not defined, DAT is not defined, and the vibration quantity is likewise not defined. Since the calculation of the vibration quantity is the key inventive step of the application, one of ordinary skill would be unable to make and/or use the invention.

Specifically, regarding claims 1 and 3-5:

The claimed subject matter which is not enabled is the “control unit,” which requires calculating the vibration detection value discussed above.

Regarding claim 2:

This is similar to claim 1.

Regarding claim 6 and 8-10:

The claimed subject matter which is not enabled is “comparing a predetermined threshold value to a vibration detection value.”

Regarding claim 7:

This is similar to claim 6.

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3-5 and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are indefinite because the terms DAT[1] and DAT[m] are not defined.

Response to Arguments

5. Applicant's arguments, see page 24, filed May 12th, 2006, with respect to the objection to the specification for equations of the form "DAT1[1]~DAT1[12]" has been noted.

The Examiner had previously made this an objection rather than a 35 USC 112, first paragraph, rejection because the Examiner had previously assumed the "equation" DAT1[1]~DAT1[12] was actually meant to define the meaning of the terms DAT1[1] through DAT1[12] as the track crossing counts in each of the 12 angular regions.

However, as the Applicant's response has indicated otherwise, the objection has been replaced by a 35 USC 112, first paragraph rejection as noted above.

6. Applicant's arguments, see page 24, filed May 12th, 2006, with respect to the rejection of claims 1-10 under 35 USC 112, first paragraph, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of 35 USC 112, first paragraph.

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The previous 35 USC 112, first paragraph, rejection involved the predetermined threshold value. The Applicant's arguments regarding this rejection are persuasive, and this rejection has been withdrawn.

However, a new 35 USC 112, first paragraph, rejection has been made as noted above. This rejection has been made due to the Applicant's response to the previous objection to the equations of the form $\text{DAT}[1] \sim \text{DAT}[12]$.

7. Applicant's arguments, see page 25, filed May 12th, 2006, with respect to the 35 U.S.C. 112, second paragraph rejections of claims 3-5 and 8-10 have been fully considered but they are not persuasive.

The Examiner had objected to the equation $\text{DAT}[1] \sim \text{DAT}[m]$ as being vague and indefinite. The Applicant, in response, has defined the symbol " \sim " as meaning "is similar to" or "same order of magnitude as."

First, the Examiner notes that this definition makes $\text{DAT}[1] \sim \text{DAT}[m]$ an expression, not an equation, as no terms are being equated. However, this is a minor point.

More importantly, the terms $\text{DAT}[1]$ and $\text{DAT}[m]$ have not been defined in the claim and thus it is unclear what Applicant is trying to claim.

The Examiner had previously guessed that the "equation" $\text{DAT}[1] \sim \text{DAT}[m]$ was an attempt to define the meaning of the terms $\text{DAT}[x]$, which are used later in the claim to calculate the vibration quantity. However, Applicant's arguments have made it clear that this part of the claim is instead intended to define the relative order of magnitude of

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the respective DAT[x] terms and is not a definition for them. Therefore the rejection under 35 USC 112, second paragraph, has been maintained.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 7/10/06



THANG W. TRAN
PRIMARY EXAMINER